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# Accidents Involving Eye Injuries



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U.S. DEPARTMENT OF LABOR  
Ray Marshall, Secretary

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## Preface

This report is one of four which summarizes the results of surveys of injured workers conducted by the Bureau of Labor Statistics (BLS) during 1979. Other reports in the series cover injuries to the foot, head, and face. The findings will assist the Occupational Safety and Health Administration (OSHA) in developing safety standards, compliance strategy, and training programs relating to the use of personal protective equipment for reducing work-related injuries.

The survey was conducted by the Bureau's Office of Occupational Safety and Health Statistics, Theodore J. Golonka, Assistant Commissioner, in cooperation with the following States: California, Colorado, Delaware, Idaho, Indiana, Iowa, Kentucky, Maryland, Massachusetts, Montana, Nebraska, Ohio, Oregon, Pennsylvania, Tennessee, Utah, Washington, Wisconsin, and Wyoming. BLS regional offices coordinated State operations. The Offices of Compliance, Standards Development, Statistical Studies and Analysis and Training of OSHA and the Office of Safety Research of the National Institute for Occupational Safety and Health contributed to the planning and development of the survey. The report was prepared by Luther Clark, Helen McDonald, Lyn Pearson and Debera Solis under the direction of Herbert Schaffer.

The user should exercise caution in extrapolating survey data to population estimates because of limitations of the survey design. States participating in data collection may not represent the country as a whole; reporting requirements for workers' compensation reports, which are the source for selecting injuries for study, vary among States; and the two-month collection period is not intended to represent the entire year. However, data represent injured workers in the States surveyed during the period studied and are, therefore, valid for identifying injury patterns on a relative basis. For analytical purposes, the incidence of eye injuries for workers wearing or not wearing protective equipment cannot be generated or inferred from the data because exposure data are not currently available.

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### Summary of Survey Results

A survey by the Bureau of Labor Statistics of workers in selected occupations who suffered impact injuries or chemical burns to the eye showed that almost 3 out of 5 were not wearing eye protection at the time of the accident. 1/ The typical eye injury was caused by flying particles resulting in relatively minor injuries, such as scratches, to the eye. Most workers were injured while performing their normal job activities at their worksites.

Of the occupations studied, craft workers (mechanics and repairers, etc.) accounted for 42 percent of the injured workers; operatives, 36 percent; and laborers, 21 percent. Almost 50 percent of the workers were employed in manufacturing and slightly more than 20 percent were in construction.

Of the 1,052 eye accidents studied, nearly seven-tenths resulted from flying or falling objects striking the eye. The injured workers estimated that nearly three-fifths of the objects were no more than one-half of a millimeter in diameter, which is smaller than a pin head; almost one fifth of the objects were about twice that size, one millimeter in diameter. 2/ Two-thirds of the objects were estimated to be traveling at a speed faster than a hand-thrown object when the accident occurred.

Contact with chemicals caused one-fifth of the injuries. Most of the remaining accidents were attributed to objects swinging from a fixed or attached position, such as tree limbs, ropes, chains, etc., or objects, usually tools, which were pulled into the eye while the worker was using them.

About 40 percent of the injured workers were wearing some form of eye protection at the time of the accident. 3/ Eyeglasses with no side shields were the most prevalent type reported, worn by 42 percent of these workers. Workers wearing glasses with full-cup or flat-fold side shields accounted for 22 and 13 percent, respectively, of those

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1/ For a description of the survey scope and methods, see appendix A.

2/ For a visual approximation of the size of the objects, see appendix A.

3/ See questionnaire in appendix C for pictures of protective eye equipment.

wearing eye protection. More than seventy percent of the workers believed that they were wearing industrial safety glasses. <sup>4/</sup> When queried for verification, 38 percent reported no special markings on the lens and 44 percent didn't know whether the lens was labeled.

Nearly 20 percent of the workers with eye protection wore face shields or welding helmets. On the other hand, only 6 percent of the workers who were injured and using some type of eye protection wore goggles, which generally offer tighter fit around the eyes than those already noted.

All but 6 percent of the injuries to those wearing eye protection resulted from objects (or caustics) going around or under the protection. Only 13 workers injured while wearing eye protection reported breakage. These cases usually resulted in injuries inflicted, at least in part, by shattered lenses or frames. In addition, four workers were injured when the frames of their glasses were pushed into the eye area.

More than 50 percent of those injured while wearing eye protection were of the opinion that the protection had minimized their injuries, mostly because of exposure to numerous flying particles. On the other hand, nearly 50 percent of the workers also felt that another type of protection could have prevented or reduced the injuries received. The 5 percent who indicated that their protection contributed to the injury usually experienced lens or frame breakage, although a few noted that the object rebounded off the interior surface of the lens.

When asked to explain why they were not wearing eye protection at the time of the accident, the unprotected workers most frequently indicated that eye protection was not normally used or practical in their type of work, or they felt it was not needed for the task being performed. Six percent had removed their eye protection before the accident.

Company policy requiring eye protection for certain types of work or at specific job locations was reported by two-thirds of the workers surveyed; more than one-fifth of these indicated that the policy was implemented after the accident occurred. Almost four-fifths of the employers provided eye protection at no cost. Three-fifths of the workers had received information, usually from their employers, concerning eye protection, such as where and what kind to wear.

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<sup>4/</sup> Industrial safety glasses are designed for high impact resistance designated by a special label on the lens.

**Table 1. Eye injuries by industry division, selected States, July-August 1979**

Industry division	All workers		Workers wearing eye protection	
	Number	Percent	Number	Percent
Total.....	1,052	100	435	100
Agriculture, forestry, and fishing.....	32	3	3	1
Mining <sup>1/</sup> .....	8	1	6	1
Construction.....	228	22	69	16
Manufacturing.....	506	48	283	65
Transportation and public utilities.....	32	3	9	2
Wholesale trade.....	65	6	17	4
Retail trade.....	72	7	16	4
Finance, insurance, and real estate.....	7	1	-	-
Services.....	91	9	30	7
Public sector.....	9	1	1	(2)
Industry unspecified.....	2	(2)	1	(2)

<sup>1/</sup> Limited to oil and gas extraction.

<sup>2/</sup> Less than 0.5 percent.

NOTE: Dashes indicate that no data were reported. Due to rounding, percentages may not add to 100. See appendix A for occupations and types of injuries included in the survey.

SOURCE: State workers' compensation reports.

**Table 2. Eye injuries by nature of injury, selected States, July-August 1979**

Nature of injury	All workers		Workers wearing eye protection	
	Number	Percent	Number	Percent
Total.....	1,052	100	435	100
Amputation or enucleation.....	1	(1)	1	(1)
Burn (chemical).....	212	20	57	13
Contusion, crushing, bruise.....	37	4	4	1
Cut, laceration, puncture.....	192	18	80	18
Scratches, abrasions.....	558	53	280	64
Multiple injuries.....	5	(1)	1	(1)
Eye, other diseases of the eye.....	3	(1)	1	(1)
Other injury, not elsewhere classified.....	3	(1)	1	(1)
Nonclassifiable.....	41	4	10	2

<sup>1/</sup> Less than 0.5 percent.

NOTE: Due to rounding, percentages may not add to 100. See appendix A for occupations and types of injuries included in the survey.

SOURCE: State workers' compensation reports.



Table 3. Eye injuries by source of injury, selected States,  
July-August 1979

Source of injury	All workers		Workers wearing eye protection	
	Number	Percent	Number	Percent
Total.....	1,052	100	435	100
Animal products.....	3	(1)	1	(1)
Bodily motion.....	1	(1)	-	-
Boilers, pressure vessels.....	1	(1)	-	-
Boxes, barrels, containers.....	5	(1)	2	(1)
Buildings and structures.....	2	(1)	-	-
Ceramic items.....	2	(1)	-	-
Chemicals, chemical compounds.....	186	18	52	12
Chemicals, chemical compounds, unspecified.....	10	1	-	-
Acids.....	50	5	19	4
Alcohols.....	3	(1)	-	-
Alkalies.....	21	2	4	1
Aromatic compounds.....	1	(1)	1	(1)
Halogenated compounds, not elsewhere classified.....	12	1	6	1
Metallic compounds, not elsewhere classified.....	1	(1)	1	(1)
Oxides of nitrogen.....	2	(1)	-	-
Chemicals and compounds, not elsewhere classified.....	86	8	21	5
Clothing.....	2	(1)	1	(1)
Coal and petroleum products.....	16	2	6	1
Electric apparatus.....	1	(1)	-	-
Food products.....	4	(1)	-	-
Furniture, fixtures, etc.....	2	(1)	-	-
Glass items, not elsewhere classified.....	17	2	8	2
Hand tools, not powered.....	23	2	4	1
Hand tools, powered.....	6	1	3	1
Heating equipment (nonelectric), not elsewhere classified.....	1	(1)	-	-
Infectious, parasitic agents, not elsewhere classified.....	1	(1)	1	(1)
Liquids, not elsewhere classified.....	6	1	1	(1)
Machines.....	5	(1)	3	1
Mechanical power transmission apparatus.....	3	(1)	1	(1)
Metal items.....	552	52	299	69
Metal items, unspecified.....	94	9	57	13
Automobile parts.....	2	(1)	1	(1)
Beams, bars.....	3	(1)	-	-
Molds.....	1	(1)	1	(1)
Molten metal.....	3	(1)	2	(1)
Nails, spikes, etc.....	23	2	2	(1)
Pipe.....	3	(1)	1	(1)
Screws, nuts, bolts.....	4	(1)	2	(1)
Metal items, not elsewhere classified..	419	40	233	54
Mineral items, metallic, not elsewhere classified.....	1	(1)	1	(1)
Mineral items, nonmetallic, not elsewhere classified.....	37	4	9	2
Paper and pulp.....	1	(1)	-	-
Particles (unidentified).....	12	1	9	2
Plants, trees, vegetation.....	22	2	2	(1)

See footnotes at end of table.

Table 3. Eye injuries by source of injury, selected States,  
July-August 1979 - Continued

Source of injury	All workers		Workers wearing eye protection	
	Number	Percent	Number	Percent
Plastic items, not elsewhere classified....	16	2	5	1
Soaps, detergents, etc., not elsewhere classified.....	12	1	1	(1)
Silica.....	1	(1)	-	-
Scrap, debris, waste materials, not elsewhere classified.....	7	1	2	(1)
Textile items, not elsewhere classified.....	1	(1)	-	-
Vehicles.....	2	(1)	1	(1)
Wood items.....	74	7	14	3
Wood items, unspecified.....	7	1	-	-
Lumber.....	2	(1)	-	-
Wood items, not elsewhere classified...	65	6	14	3
Rubber products.....	2	(1)	-	-
Miscellaneous, not elsewhere classified.....	25	2	9	2

1/ Less than 0.5 percent.

NOTE: Dashes indicate that no data were reported. Due to rounding, percentages may not add to 100. See appendix A for occupations and types of injuries included in the survey.

SOURCE: State workers' compensation reports.

**Table 4. Eye injuries by age of workers, selected States, July-August 1979**

Age	All workers		Workers wearing eye protection	
	Number	Percent	Number	Percent
Total.....	1,052	100	435	100
15 years or less.....	8	1	1	(1)
16 - 19 years.....	132	13	46	11
20 - 24 years.....	292	28	107	25
25 - 34 years.....	309	29	138	32
35 - 44 years.....	152	14	70	16
45 - 54 years.....	70	7	31	7
55 - 64 years.....	46	4	28	6
65 years or more.....	3	(1)	2	(1)
Not available.....	40	4	12	3

1/ Less than 0.5 percent.

NOTE: Due to rounding, percentages may not add to 100. See appendix A for occupations and types of injuries included in the survey.

SOURCE: State workers' compensation reports.

**Table 5. Eye injuries by sex of workers, selected States, July-August 1979**

Sex	All workers		Workers wearing eye protection	
	Number	Percent	Number	Percent
Total.....	1,052	100	435	100
Men.....	972	92	405	93
Women.....	80	8	30	7

NOTE: See appendix A for occupations and types of injuries included in the survey.

SOURCE: State workers' compensation reports.

Table 6. Eye injuries by selected occupations, selected States,  
July-August 1979

Occupation	All workers		Workers wearing eye protection	
	Number	Percent	Number	Percent
Total.....	1,052	100	435	100
Clerical and kindred workers.....	10	1	6	1
Shipping, receiving clerks.....	5	(1)	4	1
Stock clerks and storekeepers.....	5	(1)	2	(1)
Craft and kindred workers.....	439	42	171	39
Automobile accessories installers.....	1	(1)	-	-
Bakers.....	1	(1)	-	-
Boilermakers.....	6	1	5	1
Brickmasons and stonemasons.....	11	1	1	(1)
Brickmason and stonemason apprentices..	1	(1)	-	-
Bulldozer operators.....	2	(1)	-	-
Cabinetmakers.....	1	(1)	-	-
Carpenters.....	47	4	10	2
Carpenter apprentices.....	4	(1)	1	(1)
Carpet installers.....	2	(1)	-	-
Cement and concrete finishers.....	3	(1)	2	(1)
Crane, derrick, and hoist operators...	1	(1)	1	(1)
Electricians.....	14	1	3	1
Electrician apprentices.....	4	(1)	-	-
Electric power line and cable installers and repairers.....	2	(1)	1	(1)
Excavating, grading, and road machine operators, excluding bulldozers.....	8	1	-	-
Blue-collar worker supervisors, not elsewhere classified.....	25	2	9	2
Forge and hammer operators.....	1	(1)	1	(1)
Glaziers.....	2	(1)	-	-
Heat treaters, annealers, temperers...	1	(1)	1	(1)
Inspectors, sealers, and graders, log and lumber.....	1	(1)	1	(1)
Machinists.....	34	3	25	6
Machinist apprentices.....	1	(1)	-	-
Mechanics and repairers.....	151	14	55	13
Air conditioning, heating and refrigeration.....	1	(1)	1	(1)
Aircraft mechanics.....	2	(1)	-	-
Automotive body repairers.....	16	2	12	3
Automobile mechanics.....	52	5	13	3
Automobile mechanic apprentices...	2	(1)	-	-
Farm implement mechanics.....	12	1	2	(1)
Heavy equipment mechanics.....	29	3	12	3
Household appliance and accessory installers and mechanics.....	3	(1)	-	-
Mechanic apprentices, excluding auto.....	2	(1)	-	-
Miscellaneous mechanics and repairers.....	19	2	9	2
Mechanics and repairers, not specified.....	13	1	6	1
Millwrights.....	11	1	5	1
Molders, metal.....	2	(1)	1	(1)
Molder apprentices.....	1	(1)	1	(1)
Painters, construction and maintenance	8	1	2	(1)

See footnotes at end of table.

Table 6. Eye injuries by selected occupations, selected States,  
July-August 1979 - Continued

Occupation	All workers		Workers wearing eye protection	
	Number	Percent	Number	Percent
<b>Craft and kindred workers - Continued</b>				
Pattern and model makers, excluding paper.....	1	(1)	1	(1)
Plasterers.....	2	(1)	1	(1)
Plumbers and pipefitters.....	23	2	10	2
Plumber and pipefitter apprentices.....	4	(1)	1	(1)
Printing press operators.....	1	(1)	1	(1)
Rollers and finishers, metal.....	1	(1)	1	(1)
Roofers and slaters.....	3	(1)	-	-
Sheetmetal workers and tinsmiths.....	24	2	16	4
Sheetmetal apprentices.....	1	(1)	1	(1)
Stationary engineers.....	4	(1)	2	(1)
Structural metal workers.....	10	1	4	1
Telephone installers and repairers.....	2	(1)	-	-
Telephone line installers and repairers.....	1	(1)	-	-
Tile setters.....	1	(1)	-	-
Tool and die makers.....	5	(1)	4	1
Tool and die maker apprentices.....	2	(1)	2	(1)
Specified craft apprentices, not elsewhere classified.....	2	(1)	-	-
Apprentices, not specified.....	1	(1)	-	-
Craft and kindred workers, not elsewhere classified.....	5	(1)	2	(1)
<b>Operatives, excluding transport.....</b>	<b>375</b>	<b>36</b>	<b>202</b>	<b>46</b>
Asbestos and insulation workers.....	3	(1)	1	(1)
Assemblers.....	40	4	15	3
Bottling and canning operatives.....	3	(1)	1	(1)
Checkers, examiners, inspectors; manufacturing.....	2	(1)	1	(1)
Cutting operatives, not elsewhere classified.....	4	(1)	3	1
Drillers, earth.....	5	(1)	-	-
Drywall installers and lathers.....	2	(1)	-	-
Filers, polishers, sanders, buffers.....	12	1	10	2
Furnace tenders, smelters, and pourers; metal.....	4	(1)	3	1
Garage workers and gas station attendants.....	9	1	-	-
Heaters, metal.....	1	(1)	-	-
Laundry and dry cleaning operatives, not elsewhere classified.....	2	(1)	-	-
Meat cutters and butchers, excluding manufacturing.....	1	(1)	-	-
Meat cutters and butchers, manufacturing.....	6	1	-	-
Metal platers.....	3	(1)	-	-
Mine operatives, not elsewhere classified.....	3	(1)	3	1
Mixing operatives.....	3	(1)	-	-
Oilers and greasers, excluding auto....	1	(1)	-	-
Packers and wrappers, excluding retail.....	5	(1)	2	(1)
Painters, manufactured articles.....	3	(1)	2	(1)
Drill press operatives.....	4	(1)	3	1
Grinding machine operatives.....	37	4	35	8

See footnotes at end of table.

Table 6. Eye injuries by selected occupations, selected States,  
July-August 1979 - Continued

Occupation	All workers		Workers wearing eye protection	
	Number	Percent	Number	Percent
<b>Operatives, excluding transport - Continued</b>				
Lathe and milling machine operatives...	6	1	4	1
Precision machine operatives, not elsewhere classified.....	1	(1)	1	(1)
Punch and stamping press operatives....	3	(1)	3	1
Riveters and fasteners.....	1	(1)	1	(1)
Sawyers.....	15	1	6	1
Sewers and stitchers.....	5	(1)	1	(1)
Shoemaking machine operatives.....	1	(1)	-	-
Welders and flame cutters.....	64	6	46	11
Winding operatives, not elsewhere classified.....	1	(1)	1	(1)
Machine operatives, miscellaneous specified.....	58	6	25	6
Machine operatives, not specified.....	15	1	8	2
Miscellaneous operatives.....	37	4	16	4
Operatives, not specified.....	15	1	11	3
<b>Laborers, excluding farm.....</b>	<b>199</b>	<b>19</b>	<b>50</b>	<b>11</b>
Animal caretakers, excluding farm.....	2	(1)	1	(1)
Carpenter helpers.....	4	(1)	-	-
Construction laborers, excluding carpenter helpers.....	50	5	7	2
Freight, material handlers.....	11	1	7	2
Garbage collectors.....	3	(1)	2	(1)
Gardeners and groundskeepers, excluding farm.....	18	2	1	(1)
Timber cutting and logging workers.....	8	1	-	-
Stock handlers.....	5	(1)	1	(1)
Vehicle and equipment cleaners.....	8	1	-	-
Warehouse laborers, not elsewhere classified.....	10	1	1	(1)
Miscellaneous laborers.....	40	4	13	3
Laborers, not specified.....	40	4	17	4
<b>Farm laborers and farm laborer supervisors..</b>	<b>22</b>	<b>2</b>	<b>2</b>	<b>(1)</b>
Farm laborer supervisors.....	1	(1)	-	-
Farm laborers, wage workers.....	21	2	2	(1)
<b>Nonclassifiable.....</b>	<b>7</b>	<b>1</b>	<b>4</b>	<b>1</b>

1/ Less than 0.5 percent.

NOTE: Dashes indicate that no data were reported. Due to rounding, percentages may not add to 100. See appendix A for occupations and types of injuries included in the survey.

SOURCE: State workers' compensation reports.

**Table 7. Eye injuries by type of accident, selected States,  
July-August 1979**

Item	All workers		Workers wearing eye protection	
	Number	Percent	Number	Percent
<b>How did the accident occur?</b>				
Total.....	1,052	100	435	100
Flying or falling object struck you.....	727	69	355	82
Struck non-moving object.....	21	2	5	1
Liquid or chemical injured you.....	216	21	59	14
Occurred in another way.....	88	8	16	4

NOTE: Due to rounding, percentages may not add to 100. See appendix A for occupations and types of injuries included in the survey. Because incomplete questionnaires were used, the total number of responses may vary by question.

SOURCE: Survey questionnaire.



**Table 8. Eye injuries by characteristics of flying or falling objects, selected States, July-August 1979**

Item	All workers		Workers wearing eye protection	
	Number	Percent	Number	Percent
<b>If a flying or falling object struck you:</b>				
<b>a. Estimate the object's size by selecting the circle which is the smallest opening that the object would fit through.</b>				
Total.....	721	100	352	100
Approximate circle diameter <sup>1/</sup>				
0.5 millimeters.....	417	58	241	68
1.0 millimeter.....	131	18	70	20
1.5 millimeters.....	40	6	11	3
3.0 millimeters.....	25	3	6	2
6.0 millimeters.....	27	4	6	2
12.0 millimeters.....	25	3	4	1
24.0 millimeters.....	15	2	3	1
Greater than 24 millimeters.....	18	2	4	1
Don't know.....	23	3	7	2
<b>b. How would you describe the speed of the object?</b>				
Total.....	719	100	353	100
High speed: For example, much faster than an object thrown by person.....	473	66	252	71
Low speed: For example, close to or slower than speed of object thrown by person.....	126	18	44	12
Don't know.....	120	17	57	16
<b>c. What was the object's weight?</b>				
Total.....	722	100	353	100
Less than the weight of quarter (1/5 ounce).....	653	90	339	96
More than weight of quarter but less than 1 ounce.....	13	2	1	(2)
1 to 4 ounces.....	10	1	2	1
4 ounces to 1 pound.....	13	2	1	(2)
1 to 4 pounds.....	2	(2)	-	-
4 to 8 pounds.....	-	-	-	-
8 to 15 pounds.....	1	(2)	-	-
15 pounds or more.....	5	1	2	1
Don't know.....	25	3	8	2

<sup>1/</sup> See appendix A for a picture of the actual circles used in the questionnaire.

<sup>2/</sup> Value is less than 0.5 percent.

NOTE: Dashes indicate that no data were reported. Due to rounding, percentages may not add to 100. See appendix A for occupations and types of injuries included in the survey. Because incomplete questionnaires were used, the total number of responses may vary by question.

SOURCE: Survey questionnaire.



**Table 9. Eye injuries by type of eye protection, selected States, July-August 1979**

Item	Number	Percent
Indicate what type of eye or face protection, if any, you were wearing when the accident occurred. <sup>1/</sup>		
Total.....	1,048	100
Not wearing any eye or face protection....	613	58
Glasses - no side shields.....	181	17
Glasses - full-cup side shields.....	94	9
Glasses - flat-fold side shields.....	57	5
Welding goggles.....	2	(2)
Soft-side goggles.....	21	2
Cup type goggles.....	3	(2)
Face shield.....	68	6
Welding helmet.....	9	1
If you were wearing glasses:		
a. What kind were they?		
Total.....	347	100
Industrial safety glasses.....	250	72
Regular glasses.....	90	26
Don't know.....	7	2
b. Did the glasses have any special marking on the lens such as manufacturing trademark, etc.?		
Total.....	330	100
No.....	125	38
Yes.....	61	18
Don't know.....	144	44

<sup>1/</sup> If more than one type of eye protection was worn, only the outermost protection is described. Forty-two respondents wore more than one type of eye protection, most frequently face shields with glasses.

<sup>2/</sup> Less than 0.5 percent.

NOTE: Due to rounding, percentages may not add to 100. See appendix A for occupations and types of injuries included in the survey and appendix C for pictures of protective eye equipment. Because incomplete questionnaires were used, the total number of responses may vary by question.

SOURCE: Survey questionnaire.

**Table 10. Eye injuries: Workers wearing eye protection, selected States, July-August 1979**

Item	Number	Percent
<b>Indicate why your eye or face protection did not prevent injury.</b>		
Total 1/.....	401	(1)
Object (or chemical) went around or under protection.....	376	94
Object went through lens or shield.....	4	1
Lens shattered and entered your eye.....	7	2
Lens was knocked out of frame.....	4	1
Frame broke and injured you.....	4	1
Eye or face protection slid out of place or fell off.....	16	4
Other reasons.....	28	7
<b>Do you feel another type of eye or face protection would have prevented or reduced your injury?</b>		
Total.....	382	100
No.....	106	28
Yes.....	188	49
Don't know.....	88	23
<b>What effect do you feel your eye or face protection had on your injury?</b>		
Total.....	380	100
Reduced injury.....	213	56
Contributed to injury.....	19	5
No effect.....	100	26
Don't know.....	48	13

1/ Because more than one response is possible, the sum of the responses and percentages may not equal the total. Percentages are calculated by dividing each response by the total number of persons who answered the question.

NOTE: Due to rounding, percentages may not add to 100. See appendix A for occupations and types of injuries included in the survey. Because incomplete questionnaires were used, the total number of responses may vary by question.

SOURCE: Survey questionnaire.

**Table 11. Eye injuries: Workers not wearing eye protection, selected States, July-August 1979**

Item	Number	Percent
<b>If you were not wearing glasses or goggles, indicate why.</b>		
Total 1/.....	617	(1)
Eye or face protection had been lifted up or was not in place.....	37	6
None available at worksite.....	136	22
Did not think they were needed.....	224	37
Not required.....	178	29
Not normally used or practical in my type of work.....	227	37
Can't see well with them on.....	83	14
Fogs up.....	68	11
Uncomfortable.....	65	11
In bad condition.....	17	3
Other reason.....	63	10

1/ Because more than one response is possible, the sum of the responses and percentages may not equal the total. Percentages are calculated by dividing each response by the total number of persons who answered the question.

NOTE: Due to rounding, percentages may not add to 100. See appendix A for occupations and types of injuries included in the survey. Because incomplete questionnaires were used, the total number of responses may vary by question.

SOURCE: Survey questionnaire.

Table 12. Eye injuries by eye protection practices and policies, selected States, July-August 1979

Item	All workers		Workers wearing eye protection	
	Number	Percent	Number	Percent
<b>Are you required by your employer to wear eye protection?</b>				
Total.....	952	100	410	100
No.....	410	43	72	18
Yes.....	491	52	324	79
Don't know.....	51	5	14	3
<b>In your work, do you usually wear eye protection?</b>				
Total.....	979	100	413	100
No.....	342	35	32	8
Yes - most or all of the time.....	405	41	320	77
Yes - sometimes.....	232	24	61	15
<b>What instructions, if any, were you given concerning eye protection (safety glasses or goggles)?</b>				
Total 1/.....	906	(1)	386	(1)
Where and when to wear.....	490	54	278	72
What type to wear.....	259	29	150	39
How equipment should fit.....	139	15	83	22
How to inspect and maintain in good condition.....	125	14	63	16
Limitations and advantages of equipment....	137	15	63	16
Other.....	9	1	5	1
None.....	360	40	79	20
<b>If you were given instructions, how did you receive them?</b>				
Total 1/.....	531	(1)	296	(1)
From supervisor, employer or safety supervisor.....	458	86	268	91
From co-worker.....	81	15	41	14
In school or other type of classroom instruction.....	93	18	40	14
From union representative.....	17	3	8	3
From salesman of protective equipment.....	6	1	3	1
From printed instructions that came with equipment.....	55	10	36	12
Other.....	12	2	7	2

See footnotes at end of table.

**Table 12. Eye injuries by eye protection practices and policies, selected States, July-August 1979 - Continued**

Item	All workers		Workers wearing eye protection	
	Number	Percent	Number	Percent
<b>What is your employer's policy on wearing eye protection?</b>				
Total.....	959	100	410	100
Required when performing certain types of work and/or in certain areas.....	639	67	350	85
Encouraged but not required.....	147	15	40	10
No policy.....	109	11	8	2
Don't know.....	64	7	12	3
<b>How would you obtain eye protection equipment?</b>				
Total.....	915	100	401	100
Available at no cost from employer.....	712	78	351	88
Must be purchased at your own expense.....	189	21	44	11
Other.....	14	2	6	1
<b>What actions, if any, did the employer take after your accident to prevent this type of injury from happening again?</b>				
Total <sup>1/</sup> .....	993	(1)	416	(1)
Investigated accident.....	254	26	123	30
Altered equipment or eliminated hazard....	62	6	31	7
Required use of eye or face protection....	118	12	42	10
Provided eye or face protection.....	135	14	48	12
Conducted training.....	14	1	6	1
Warned other employees about the hazard...	288	29	114	27
Other action.....	27	3	16	4
Employer took no action.....	210	21	94	23
Don't know.....	214	22	77	19

<sup>1/</sup> Because more than one response is possible, the sum of the responses and percentages may not equal the total. Percentages are calculated by dividing each response by the total number of persons who answered the question.

NOTE: Due to rounding, percentages may not add to 100. See appendix A for occupations and types of injuries included in the survey. Because incomplete questionnaires were used, the total number of responses may vary by question.

SOURCE: Survey questionnaire.

**Table 13. Eye injuries by work activity, selected States,  
July-August 1979**

Item	All workers		Workers wearing eye protection	
	Number	Percent	Number	Percent
<b>Which of the following best describes where you were when the accident occurred?</b>				
Total.....	1,046	100	431	100
Machine shop.....	135	13	92	21
Maintenance or service shop.....	101	10	37	9
Carpentry or pattern shop.....	17	2	7	2
Stockroom or tool crib room.....	11	1	6	1
Loading, unloading dock.....	18	2	6	1
Foundry shop.....	23	2	21	5
Construction site.....	226	22	64	15
Assembly line or shop.....	103	10	49	11
Other production area.....	176	17	91	21
Outdoors, (other than construction site)..	100	10	21	5
Warehouse.....	20	2	1	(1)
Private home, office or residential building.....	22	2	5	1
Motor vehicle repair shop.....	64	6	20	5
Other.....	30	3	11	3
<b>Was this area part of your regular worksite?</b>				
Total.....	1,044	100	431	100
No.....	63	6	19	4
Yes.....	859	82	388	90
Don't have regular worksite.....	122	12	24	6
<b>Were you performing a task at the time of the accident which was part of your regular job activity?</b>				
Total.....	1,039	100	428	100
Doing regular task.....	944	91	396	93
Not doing regular task.....	84	8	29	7
Going to or from worksite.....	6	1	1	(1)
Not working (lunch break, rest break, etc.).....	5	(1)	2	(1)
<b>Was the object (or chemical) involved in the accident one of the items you were working with or working on?</b>				
Total.....	1,051	100	435	100
No.....	94	9	29	7
Yes.....	945	90	400	92
Don't know.....	12	1	6	1

See footnotes at end of table.

**Table 13. Eye injuries by work activity, selected States,  
July-August 1979 - Continued**

Item	All workers		Workers wearing eye protection	
	Number	Percent	Number	Percent
<b>Which of the following best describes the type of object.</b>				
Total.....	1,041	100	433	100
Sharp.....	609	59	302	70
Blunt.....	155	15	43	10
Liquid.....	199	19	53	12
Powder.....	23	2	8	2
Don't know.....	55	5	27	6
<b>Do you feel that any of the following conditions contributed to the accident?</b>				
Total 2/.....	1,007	(2)	416	(2)
Crowded or cluttered worksite.....	54	5	25	6
Work tools in bad condition or not working properly.....	69	7	27	6
No barrier guards to protect against swinging, flying or falling objects.....	66	7	32	8
Barrier guards were not used.....	10	1	4	1
None of the above.....	831	83	339	81

1/ Less than 0.5 percent.

2/ Because more than one response is possible, the sum of the responses and percentages may not equal the total. Percentages are calculated by dividing each response by the total number of persons who answered the question.

NOTE: Due to rounding, percentages may not add to 100. See appendix A for occupations and types of injuries included in the survey. Because incomplete questionnaires were used, the total number of responses may vary by question.

SOURCE: Survey questionnaire.



## Appendix A: Survey Explanatory Note

The survey was designed to identify the hazards associated with eye injuries and to examine the use of protective eye equipment and the extent of protection provided. It focused on accidents in which the eye was either struck by or against an object or injured by contact with powdered or liquid chemicals. For multiple injuries, the case was included in the survey if the more serious injury was to the eye. The survey was confined to workers in selected occupations including shipping, receiving, and stock clerks; craft workers; operatives; and laborers. The scope of the survey extended to all industries, except coal and metallic and nonmetallic mining. Cases were excluded from the survey if the injury resulted in a fatality, or loss of vision in both eyes, or if more than 90 days had elapsed between the time of the injury and the beginning of the survey.

To identify eye injury cases within the scope of the survey, participating State agency staff reviewed employers' reports of injuries required by State workers' compensation laws and mailed questionnaires to injured workers selected for the study. They requested cooperation on a voluntary basis. During the survey period, July-August 1979, 19 participating State agencies reviewed about 188,000 injury reports, of which 2,118 were within the scope of the survey. Fifty percent of the workers selected for study responded to the mail questionnaire.

Although data were aggregated for the 19 States, it should be noted that the workers' compensation cases selected for study reflect differences in State reporting requirements. For example, some participating States require reporting of workers' compensation cases involving medical treatment regardless of lost time, while others limit reporting to cases involving lost time ranging from 1 to 8 days.

In addition, no attempt was made to estimate all impact injuries to the eye for the occupations studied. Although the participating States provided a broad geographical and industrial mix, they were not selected statistically to represent the country as a whole. Moreover, the survey period was terminated when responses exceeded 750 cases needed for tabulating valid results of the survey.

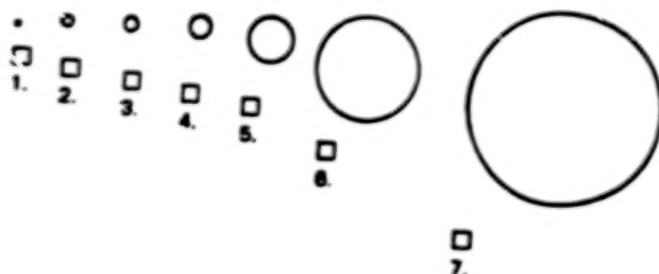
Characteristics of the injury and the person injured were classified and tabulated for all in-scope respondents based on information furnished by the employer in the injury report prepared for workers' compensation. Questionnaires returned by the injured



worker were reviewed for completeness and consistency. Thirty-seven percent of the questionnaires were returned complete. All usable responses of the incomplete questionnaires were also used in the tabulations. No attempt was made to adjust the data for nonresponses.

Numerical values shown in the tables were actual counts while percentages were rounded to the nearest whole number.

Presented below are the circles shown in the questionnaire which the respondent selected to represent the approximate size of the falling or flying object.



**Appendix B: Participating State Agencies**

California Department of Industrial Relations  
Colorado Department of Labor and Employment  
Delaware Department of Labor  
Idaho Industrial Commission  
Indiana Division of Labor  
Iowa Bureau of Labor  
Kentucky Department of Labor  
Maryland Department of Licensing and Regulation  
Massachusetts Department of Labor and Industries  
Montana Department of Labor and Industry  
Nebraska Workmen's Compensation Court  
Ohio Industrial Commission  
Oregon Workers' Compensation Department  
Pennsylvania Department of Labor and Industry  
Tennessee Department of Labor  
Utah Industrial Commission  
Washington Department of Labor and Industries  
Wisconsin Department of Industry, Labor and Human Relations  
Wyoming Department of Labor and Statistics

Appendix C: Survey Questionnaire  
U.S. Department of Labor

Bureau of Labor Statistics  
Work Injury Report  
Accidents Involving Eye and Face Injuries

The information collected on this form by the Bureau of Labor Statistics and the State Agency is cooperating in its statistical program will be held in confidence and will be used for statistical purposes only.

This report is authorized by law 29 U.S.C. 2. Your voluntary cooperation is needed to make the results of this survey comprehensive, accurate, and timely.

Form Approved  
O.M.B. No. 445-77037

For Office Use Only	State <span style="border: 1px solid black; display: inline-block; width: 20px; height: 15px;"></span>	Case Number <span style="border: 1px solid black; display: inline-block; width: 40px; height: 15px;"></span>	Date of Accident <span style="border: 1px solid black; display: inline-block; width: 40px; height: 15px;"></span>	For Office Use Only								
<p><b>I. Answer A through I</b></p> <p>A. How did the accident occur? (Check one.)</p> <p>1. <input type="checkbox"/> Flying or falling object struck you</p> <p>2. <input type="checkbox"/> Struck non-moving object</p> <p>3. <input type="checkbox"/> Liquid or chemical injured you</p> <p>4. <input type="checkbox"/> Occurred in another way (Describe) _____</p> <p>B. Describe the object or chemical involved (for example: metal chip, piece of glass, battery acid, etc.) _____</p> <p>C. Which of the following best describes the type of object? (Check one.)</p> <p>1. <input type="checkbox"/> Sharp</p> <p>2. <input type="checkbox"/> Blunt</p> <p>3. <input type="checkbox"/> Liquid</p> <p>4. <input type="checkbox"/> Powder</p> <p>5. <input type="checkbox"/> Don't know</p> <p>D. Was the object (or chemical) part of the items you were working with or working on?</p> <p>1. <input type="checkbox"/> No</p> <p>2. <input type="checkbox"/> Yes</p> <p>3. <input type="checkbox"/> Don't know</p> <p>E. If a flying or falling object struck you, answer a through c.</p> <p>a. Estimate the object's size by selecting the circle which is the smallest opening that the object would fit through. (Check one.)</p> <div style="display: flex; align-items: center;"> <div style="margin-right: 10px;"> <p>1 </p> <p>2 </p> <p>3 </p> <p>4 </p> <p>5 </p> </div> <div style="margin-right: 10px;"> <p>6 </p> <p>7 </p> </div> </div> <p>8 <input type="checkbox"/> Larger (Describe size) _____</p> <p>9 <input type="checkbox"/> Don't know</p> <p>b. How would you describe the speed of the object? (Check one.)</p> <p>1. <input type="checkbox"/> High speed for example, much faster than object thrown by person</p> <p>2. <input type="checkbox"/> Low speed for example, close to or slower than speed of object thrown by person</p> <p>3. <input type="checkbox"/> Don't know</p> <p>c. What was the object's weight? (Check one.)</p> <p>1. <input type="checkbox"/> Less than the weight of quarter (1/4 oz.)</p> <p>2. <input type="checkbox"/> More than weight of quarter but less than 1 ounce</p> <p>3. <input type="checkbox"/> 1 to 4 ounces</p> <p>4. <input type="checkbox"/> 4 ounces to 1 pound</p> <p>5. <input type="checkbox"/> 1 to 4 pounds</p> <p>6. <input type="checkbox"/> 4 to 8 pounds</p> <p>7. <input type="checkbox"/> 8 to 15 pounds</p> <p>8. <input type="checkbox"/> 15 pounds or more</p> <p>9. <input type="checkbox"/> Don't know</p> <p>F. Place a mark on that part of the face where you were injured.</p> <div style="text-align: center;"> </div>												
<p>G. Indicate what type of eye or face protection, if any, you were wearing when the accident occurred. (Check all that apply.)</p> <table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <td style="width: 25%; text-align: center;">1. Cup type goggles </td> <td style="width: 25%; text-align: center;">2. Soft side goggles </td> <td style="width: 25%; text-align: center;">3. Welding goggles </td> <td style="width: 25%; text-align: center;">4. Glasses with flat-fold side shields </td> </tr> <tr> <td style="width: 25%; text-align: center;">5. Glasses with full-cup side shields </td> <td style="width: 25%; text-align: center;">6. Glasses (no side shields) </td> <td style="width: 25%; text-align: center;">7. Face shield </td> <td style="width: 25%; text-align: center;">8. Welding helmet </td> </tr> </table> <p>9. <input type="checkbox"/> Not wearing any eye or face protection</p> <p>H. If you were not wearing glasses or goggles (number 1 to 6 above), indicate why. (Check all that apply.)</p> <p>1. <input type="checkbox"/> None available at workplace</p> <p>2. <input type="checkbox"/> Did not think they were needed</p> <p>3. <input type="checkbox"/> Not required</p> <p>4. <input type="checkbox"/> Not normally used or practical in my type of work</p> <p>5. <input type="checkbox"/> Can't see well with them on</p> <p>6. <input type="checkbox"/> Fog up</p> <p>7. <input type="checkbox"/> Uncomfortable</p> <p>8. <input type="checkbox"/> In bad condition</p> <p>9. <input type="checkbox"/> Other reason (Describe) _____</p> <p>I. If you were not wearing full face protection (number 7 or 8 above), indicate why. (Check all that apply.)</p> <p>1. <input type="checkbox"/> None available at workplace</p> <p>2. <input type="checkbox"/> Did not think they were needed</p> <p>3. <input type="checkbox"/> Not required</p> <p>4. <input type="checkbox"/> Not normally used or practical in my type of work</p> <p>5. <input type="checkbox"/> Can't see well with them on</p> <p>6. <input type="checkbox"/> Fog up</p> <p>7. <input type="checkbox"/> Uncomfortable</p> <p>8. <input type="checkbox"/> In bad condition</p> <p>9. <input type="checkbox"/> Other reason (Describe) _____</p> <p><b>II. IF YOU WERE NOT WEARING GLASSES, GOGGLES OR FACE PROTECTION, SKIP THIS SECTION AND GO TO SECTION III ON REVERSE SIDE.</b></p> <p><b>IF YOU WERE WEARING GLASSES, GOGGLES OR FACE PROTECTION, ANSWER THE FOLLOWING QUESTIONS. (Note: if you were wearing more than one, describe the largest or outermost equipment.)</b></p> <p>A. Indicate why your eye or face protection did not prevent injury. (Check all that apply.)</p> <p>1. <input type="checkbox"/> Object (or chemical) went around or under protection</p> <p>2. <input type="checkbox"/> Object went through lens or shield</p> <p>3. <input type="checkbox"/> Lens shattered and entered your eye</p> <p>4. <input type="checkbox"/> Lens was knocked out of frame</p> <p>5. <input type="checkbox"/> Frame broke and injured you (Explain) _____</p> <p>6. <input type="checkbox"/> Eye or face protection had been lifted up or was not in place</p> <p>7. <input type="checkbox"/> Eye or face protection slid out of place or fell off</p> <p>8. <input type="checkbox"/> Object hit uncovered area of face</p> <p>9. <input type="checkbox"/> Other reasons (Describe) _____</p> <p>B. Do you feel another type of eye or face protection would have prevented or reduced your injury?</p> <p>1. <input type="checkbox"/> No 2. <input type="checkbox"/> Yes 3. <input type="checkbox"/> Don't know</p> <p>(Explain) _____</p> <p>C. What effect do you feel your eye or face protection had on your injury? (Check one.)</p> <p>1. <input type="checkbox"/> Reduced injury 3. <input type="checkbox"/> No effect</p> <p>2. <input type="checkbox"/> Contributed to injury 4. <input type="checkbox"/> Don't know</p> <p>(Explain) _____</p> <p>D. If you were wearing glasses:</p> <p>a. What kind were they?</p> <p>1. <input type="checkbox"/> Industrial safety glasses 3. <input type="checkbox"/> Don't know</p> <p>2. <input type="checkbox"/> Regular glasses</p> <p>b. Did the glasses have any special marking on the lens such as manufacturing trademark, etc.?</p> <p>1. <input type="checkbox"/> No 2. <input type="checkbox"/> Yes 3. <input type="checkbox"/> Don't know</p>					1. Cup type goggles 	2. Soft side goggles 	3. Welding goggles 	4. Glasses with flat-fold side shields 	5. Glasses with full-cup side shields 	6. Glasses (no side shields) 	7. Face shield 	8. Welding helmet 
1. Cup type goggles 	2. Soft side goggles 	3. Welding goggles 	4. Glasses with flat-fold side shields 									
5. Glasses with full-cup side shields 	6. Glasses (no side shields) 	7. Face shield 	8. Welding helmet 									

For  
Office  
Use  
Only

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### III. Complete A through E

A. Which of the following best describes where you were when the accident occurred? (Check one.)

1. ☐ Machine shop
2. ☐ Maintenance or service shop
3. ☐ Carpentry or pattern shop
4. ☐ Stockroom or tool crib room
5. ☐ Loading, unloading dock
6. ☐ Foundry shop
7. ☐ Construction site
8. ☐ Assembly line or shop
9. ☐ Other production area (Describe)
10. ☐ Outdoors, (other than construction site)
11. ☐ Warehouse
12. ☐ Private home, office or residential building
13. ☐ Motor vehicle repair shop
14. ☐ Other (Describe)

B. Was this area part of your regular worksite?

1. ☐ No
2. ☐ Yes
3. ☐ Don't have regular worksite

C. Were you performing a task at the time of the accident which was part of your regular job activity? (Check one.)

1. ☐ Doing regular task
2. ☐ Not doing regular task
3. ☐ Going to or from worksite
4. ☐ Not working (lunch break, rest break, etc.)

D. Do you feel that any of the following conditions contributed to the accident? (Check all that apply.)

1. ☐ Crowded or cluttered worksite
2. ☐ Work tools in bad condition or not working properly
3. ☐ No barrier guards to protect against swinging, flying or falling objects
4. ☐ Barrier guards were not used
5. ☐ None of the above

E. What actions, if any, did the employer take after your accident to prevent this type of injury from happening again? (Check all that apply.)

1. ☐ Investigated accident
2. ☐ Altered equipment or eliminated hazard
3. ☐ Required use of eye or face protection
4. ☐ Provided eye or face protection
5. ☐ Conducted training
6. ☐ Warned other employees about the hazard
7. ☐ Other action (Describe)
8. ☐ Employer took no action
9. ☐ Don't know

### IV. Complete A through F for both eye protection (column a) and face protection (column b).

A. What instructions, if any, were you given concerning eye protection (safety glasses or goggles) or face protection (face shields)? (Check all that apply.)

- | a                           | b                        |   |
|-----------------------------|--------------------------|---|
| Eye Protection              | Face Protection          |   |
| 1. <input type="checkbox"/> | <input type="checkbox"/> | Where and when to wear                        |
| 2. <input type="checkbox"/> | <input type="checkbox"/> | What type to wear                             |
| 3. <input type="checkbox"/> | <input type="checkbox"/> | How equipment should fit                      |
| 4. <input type="checkbox"/> | <input type="checkbox"/> | How to inspect and maintain in good condition |
| 5. <input type="checkbox"/> | <input type="checkbox"/> | Limitations and advantages of equipment       |
| 6. <input type="checkbox"/> | <input type="checkbox"/> | Other (Describe)                              |
| 7. <input type="checkbox"/> | <input type="checkbox"/> | None  |

B. How did you receive this instruction? (Check all that apply.)

- | Eye Protection              | Face Protection          |  |
|-----------------------------|--------------------------|--|
| 1. <input type="checkbox"/> | <input type="checkbox"/> | From supervisor, employer or safety supervisor     |
| 2. <input type="checkbox"/> | <input type="checkbox"/> | From co-worker                                     |
| 3. <input type="checkbox"/> | <input type="checkbox"/> | In school or other type of classroom instruction   |
| 4. <input type="checkbox"/> | <input type="checkbox"/> | From union representative                          |
| 5. <input type="checkbox"/> | <input type="checkbox"/> | From salesman of protective equipment              |
| 6. <input type="checkbox"/> | <input type="checkbox"/> | From printed instructions that came with equipment |
| 7. <input type="checkbox"/> | <input type="checkbox"/> | Other (Describe)                                   |

C. Are you required by your employer to wear eye or face protection?

- | Eye Protection              | Face Protection          |            |
|-----------------------------|--------------------------|------------|
| 1. <input type="checkbox"/> | <input type="checkbox"/> | No         |
| 2. <input type="checkbox"/> | <input type="checkbox"/> | Yes        |
| 3. <input type="checkbox"/> | <input type="checkbox"/> | Don't know |

D. In your work, do you usually wear eye or face protection?

- | Eye Protection              | Face Protection          |                             |
|-----------------------------|--------------------------|-----------------------------|
| 1. <input type="checkbox"/> | <input type="checkbox"/> | No                          |
| 2. <input type="checkbox"/> | <input type="checkbox"/> | Yes-most or all of the time |
| 3. <input type="checkbox"/> | <input type="checkbox"/> | Yes-sometimes               |

E. What is your employer's policy on wearing eye or face protection?

- | Eye Protection              | Face Protection          |  |
|-----------------------------|--------------------------|--|
| 1. <input type="checkbox"/> | <input type="checkbox"/> | Required when performing certain types of work |
| 2. <input type="checkbox"/> | <input type="checkbox"/> | Required in certain areas                      |
| 3. <input type="checkbox"/> | <input type="checkbox"/> | Encouraged but not required                    |
| 4. <input type="checkbox"/> | <input type="checkbox"/> | No policy                                      |
| 5. <input type="checkbox"/> | <input type="checkbox"/> | Don't know                                     |

F. How would you obtain eye or face protection equipment?

- | Eye Protection              | Face Protection          |                                       |
|-----------------------------|--------------------------|---------------------------------------|
| 1. <input type="checkbox"/> | <input type="checkbox"/> | Available at no cost from employer    |
| 2. <input type="checkbox"/> | <input type="checkbox"/> | Must be purchased at your own expense |
| 3. <input type="checkbox"/> | <input type="checkbox"/> | Other (Describe)                      |

### V. Describe in your own words how the accident happened.

For  
Office  
Use  
Only

101-102

103-104

105-106

107-108

109-110

111-112

113-114

115-116

117-118

119-120

121-122

123-124

125-126

127-128

129-130

131-132

133-134

135-136

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# BLS Periodicals

Provide timely information  
on Employment, Occupations,  
Wages, and Prices

U.S. Department of Labor  
Bureau of Labor Statistics

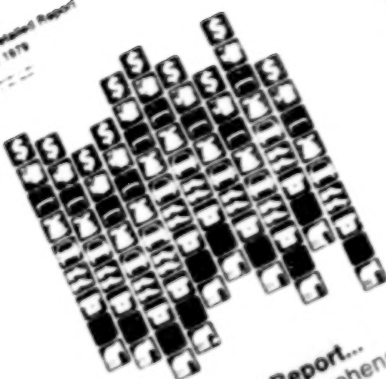


Employment and Earnings  
June 1979



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Data for June 1979



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# Bureau of Labor Statistics

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### Region IV

1371 Peachtree Street, N.E.  
Atlanta, Ga. 30309  
Phone: (404) 881-4418

### Region V

9th Floor  
Federal Office Building  
230 S. Dearborn Street  
Chicago, Ill. 60604  
Phone: (312) 353-1880

### Region VI

Second Floor  
555 Griffin Square Building  
Dallas, Tex. 75202  
Phone: (214) 767-6971

### Regions VII and VIII

911 Walnut Street  
Kansas City, Mo. 64106  
Phone: (816) 374-2481

### Regions IX and X

450 Golden Gate Avenue  
Box 36017  
San Francisco, Calif. 94102  
Phone: (415) 556-4678





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